

IN THE CLAIMS:

Please cancel claims 50, 61, and 69 without prejudice, and amend claims 46, 48-49, 51, 56, 62, 64-65, and 70-72 as follows:

Claims 1-45 (Canceled)

46. (Currently amended) A semiconductor processing system, comprising:
a mini-environment coupled to a wafer cassette;
a robot disposed within the mini-environment;
one or more load lock chambers connected to the mini-environment; and
one or more process chambers connected to the one or more load lock chambers, wherein each load lock chamber is connected to a single process chamber, wherein each load lock chamber comprises:

an enclosure having a bottom, a lid and sidewalls defining a chamber cavity, wherein one or more perforations are disposed in the bottom;

one or more lift pins slidably disposed through the one or more perforations; and

a transfer robot disposed in each load lock chamber.

47. (Canceled)

48. (Currently amended) The system of claim 46 47, wherein a central portion of each chamber cavity has a diameter slightly larger than a diameter of a substrate to be received in the system.

49. (Currently amended) The system of claim 46 47, wherein each load lock chamber is connected to the single process chamber in a linear configuration.

50. (Canceled)

51. (Currently amended) The system of claim 46 50, wherein the load lock chamber further comprises a cover having an opening and the lid is adapted to substantially cover the opening.

52. (Previously presented) The system of claim 51, wherein the lid further comprises at least one stabilizing rod disposed through the lid and connected to the cover.

53. (Previously presented) The system of claim 52, wherein the lid further comprises a bellow sleeves disposed around a lower portion of the stabilizing rod.

54. (Previously presented) The system of claim 46, further comprising a vacuum pump connected to the load lock chamber.

55. (Previously presented) The system of claim 48, wherein the load lock chamber further comprises:

an elongated substantially rectangular aperture; and

a hermetic sealing apparatus adapted to substantially cover the aperture.

56. (Currently amended) A semiconductor processing system for processing substrates, comprising:

a mini-environment coupled to a wafer cassette;

a robot disposed within the mini-environment;

one or more load lock chambers connected to the mini-environment, each load lock chamber comprising:

an enclosure having a bottom, a lid and sidewalls defining a chamber cavity having a central portion having a diameter slightly larger than a diameter of the substrates to be received in the system, wherein one or more perforations are disposed in the bottom:

one or more lift pins slidably disposed through the one or more perforations; and

a transfer robot disposed in each load lock chamber, wherein each transfer robot comprises:

- one or more actuators;
- a linkage; and
- a substrate support means; and

one or more process chambers connected to the one or more load lock chambers, wherein each load lock chamber is connected to a single process chamber.

57. (Previously presented) The system of claim 56, wherein each load lock chamber is fluidly connected to the single process chamber via a substantially rectangular aperture.

58. (Previously presented) The system of claim 57, wherein the load lock chamber further comprises a hermetic seal adapted to substantially cover the aperture.

59. (Previously presented) The system of claim 58, wherein the load lock chamber further comprises:

a cover having an opening and the lid is adapted to substantially cover the opening.

60. (Previously presented) The system of claim 59, further comprising:
a transfer assembly adapted to transfer the substrates to a plurality of positions.

61. (Canceled)

62. (Currently amended) The system of claim ~~64~~ 56, wherein the lift pins are coupled at one end to a linear actuator.

63. (Previously presented) The apparatus of claim 56, wherein a vacuum pump is in fluid communication with the load lock chamber.

64. (Currently amended) The system of claim 64 56, wherein the lid further comprises:

at least one stabilizing rod disposed through the lid and connected to the cover;
and
a bellow sleeves disposed around a lower portion the stabilizing rod.

65 (Currently amended) A semiconductor processing system, comprising:
a wall defining a mini-environment fluidly coupled to a wafer cassette containing one or more wafers;

at least one robot disposed within the mini-environment and accessible to the wafer cassette via an opening in the wall;

one or more load lock chambers connected to the mini-environment, wherein the each load lock chamber[s] comprises a lid, a bottom, and sidewalls to define an enclosure having an inside diameter slightly larger than the a wafer to be received therein, one or more perforations disposed in the bottom, one or more lift pins slidably disposed through the one or more perforations, and an internal transfer robot;

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one or more process chambers fluidly coupled to the one or more load lock chambers, wherein each load lock chamber is connected to a single process chamber.

66. (Previously presented) The system of claim 65, further comprising a slit valve positioned between each load lock chamber and its the process chamber connected to the load lock chamber to provide a vacuum seal therebetween.

67. (Previously presented) The system of claim 65, wherein each lid is movable in a vertical direction relative the bottom.

68. (Previously presented) The system of claim 65, wherein the robot is disposed external to the one or more load lock chambers.

69. (Canceled)

70. (Currently amended) The system of claim 65, further comprising a lifting apparatus configured to shuttle substrates from the mini-environment to the one or more load lock chambers.

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71. (Currently amended) A semiconductor processing system, comprising:
a mini-environment coupled to a wafer cassette;
a robot disposed within the mini-environment;
a plurality of load lock chambers connected to the mini-environment wherein each load lock chamber comprises a lid, a bottom, and sidewalls to define an enclosure, one or more perforations disposed in the bottom, one or more lift pins slidably disposed through the one or more perforations, and an internal transfer robot; and
a plurality of process chambers, each connected to a single load lock chamber.

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72. (Currently amended) A semiconductor processing system for processing substrates, comprising:

a mini-environment coupled to a wafer cassette;
a robot disposed within the mini-environment;
plurality of load lock chambers connected to the mini-environment, each load lock chamber comprising:

an enclosure having a bottom, a lid and sidewalls defining a chamber cavity having a central portion having a diameter slightly larger than a diameter of the substrates to be received in the system, wherein one or more perforations are disposed in the bottom;

one or more lift pins slidably disposed through the one or more perforations; and

a transfer robot disposed in each load lock chamber, wherein each transfer robot comprises:

one or more actuators;

a linkage; and

a substrate support means; and

a plurality of process chambers connected to the plurality of load lock chambers,
each connected to a single load lock chamber.